



# GTB2F-E1331

## G2

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
GTB2F-E1331	1135704

Other models and accessories → [www.sick.com/G2](http://www.sick.com/G2)

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	14 mm x 24 mm x 3.5 mm
Housing design (light emission)	Rectangular
Minimum detectable object (MDO)	0.1 mm <sup>1)</sup>
Sensing range max.	0.5 mm ... 34 mm
Sensing range	0.5 mm ... 32 mm <sup>2)</sup>
Type of light	Visible blue light
Light source	PinPoint LED <sup>3)</sup>
Light spot size (distance)	Ø 13.5 mm (30 mm)
Wave length	455 nm
Adjustment	None

<sup>1)</sup> In 5 mm distance.  
<sup>2)</sup> Object with 90% remission (based on standard white, DIN 5033).  
<sup>3)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

<b>Supply voltage <math>U_B</math></b>	10 V DC ... 30 V DC
<b>Ripple</b>	$< 5 V_{pp}^{1)}$
<b>Current consumption</b>	20 mA <sup>2)</sup>
<b>Switching output</b>	NPN
<b>Switching mode</b>	Dark switching
<b>Output current <math>I_{max.}</math></b>	$\leq 50$ mA
<b>Response time</b>	$< 0.625$ ms <sup>3)</sup>
<b>Switching frequency</b>	800 Hz <sup>4)</sup>
<b>Connection type</b>	Cable, 3-wire, 2 m <sup>5)</sup>
<b>Cable material</b>	Plastic, PVC
<b>Cable diameter</b>	$\varnothing 2.3$ mm
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>
<b>Weight</b>	24 g
<b>Housing material</b>	Plastic, VISTAL®
<b>Optics material</b>	Plastic, MABS
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	$-20$ °C ... $+50$ °C
<b>Ambient temperature, storage</b>	$-40$ °C ... $+70$ °C
<b>UL File No.</b>	NRKH.E348498 & NRKH7.E348498
<b>Repeatability (<math>T_a</math> not constant)</b>	0.1 mm
<b>Hysteresis</b>	$< 2$ mm

<sup>1)</sup> May not fall below or exceed  $U_V$  tolerances.

<sup>2)</sup> Without load.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Do not bend below 0 °C.

<sup>6)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,107 years
<b>DC<sub>avg</sub></b>	0%
<b>T<sub>M</sub> (mission time)</b>	20 years

## Certificates

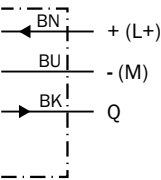
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓

cRUus certificate	✓
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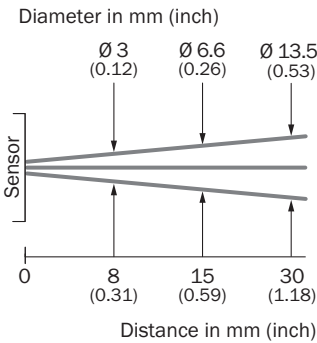
Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

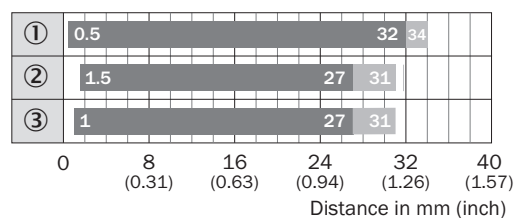
Connection diagram Cd-043



Light spot size



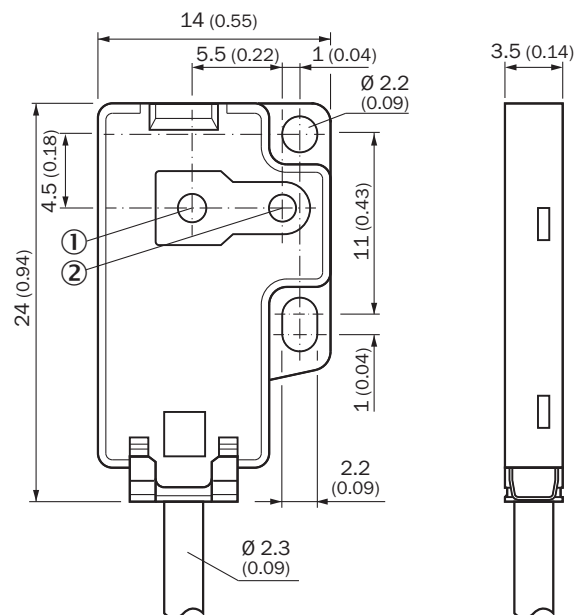
## Sensing range diagram



■ Sensing range      ■ Sensing range typ. max.

- ① Sensing range on white, 90% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on black, 6% remission factor

## Dimensional drawing





Dimensions in mm (inch)

- ① optical axis, receiver
- ② optical axis, sender

Recommended accessories

Other models and accessories → [www.sick.com/G2](http://www.sick.com/G2)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Mounting plate for direct mounting, from the rear, on wall or machine, not adjustable. 10 Piece ,Black ,Plastic, VISTAL®. Suitable for GTB2F and GSE2F</li><li>• <b>Packing unit:</b> 10 pieces</li></ul>	BEF-G2F-FLAT-SPACER-M2	2107263
connectors and cables			
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M8, 3-pin, straight, A-coded</li><li>• <b>Description:</b> Unshielded</li><li>• <b>Connection systems:</b> Screw-type terminals</li><li>• <b>Permitted cross-section:</b> 0.14 mm² ... 0.5 mm²</li></ul>	STE-0803-G	6037322

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)